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The role of equilibrium between free radicals and antioxidants in depression and bipolar disorder**Anastasia Kotzaeroglou**

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Statement of the Problem: Increasing evidence suggests that the presence of oxidative stress and disorders of the antioxidant defense system are involved in a wide range of neuropsychiatric disorders, such as bipolar disorder, schizophrenia and major depression, but the exact mechanism remains unknown. This review focuses on a better appreciation of the contribution of oxidative stress to depression and bipolar disorder.

Methodology & Theoretical Orientation: This review was conducted by extracting information from other research and review studies, as well as other meta-analyses, using two search engines, PubMed and Google Scholar.

Findings: As far as depression is concerned, there is agreement among researchers on the association between oxidative stress and antioxidants. In bipolar disorder, however, most of them observe strong lipid peroxidation in patients, while regarding antioxidant levels, opinions are divided. Nevertheless, in recent years, it seems that on depression, there are mainly meta-analyses and reviews, rather than research studies, unlike on bipolar disorder.

Conclusion & Significance: Undoubtedly, there is a correlation among oxidative stress, antioxidant defense and the two psychiatric disorders. However, several questions still remain unanswered, and with respect to some biomarkers, there are discrepancies among studies in terms of their levels, so there is a need to conduct further research for better clarification. Ultimately, deepening our knowledge of the mechanism of oxidative stress in the brain would lead to the rational development of new therapeutic approaches and/or biomarkers for the treatment of psychiatric diseases.

Biography

Anastasia Kotzaeroglou studies biomedical sciences at the metropolitan college (campus Thessaloniki) in collaboration with the University of East London. She is currently doing her internship at the microbiology centre Karyo in Thessaloniki, Greece.